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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,299	11/29/2001	David Lee Sandbach	9637-000035	1080
27572	7590	05/10/2004	EXAMINER	
HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			EDWARDS JR, TIMOTHY	
			ART UNIT	PAPER NUMBER
			2635	6
DATE MAILED: 05/10/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/980,299

Applicant(s)

SANDBACH ET AL.

Examiner

Timothy Edwards, Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 29 November 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12-16, 18-22, 24 and 25 is/are rejected.
- 7) ☒ Claim(s) 11, 17 and 23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitations of claim 17 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 8,9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Examiner cannot find language in the specification to support "tactile feedback provides an indication of the location of a key".

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Claims 1-7,10,12-16,18-22,24,25 are rejected under 35 U.S.C. 103(a) as being obvious over Sandbach [US 6,333,736].

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2). The present application and the cited references disclose a foldable device configured to input data into a computer, the input

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device comprising a first and second electrically conductive fabric sheets, an interface circuit configured to supply voltages to and receive output from the input device in response to a mechanical interaction. Obviousness is based on the method by which both input devices generate an output. The reference discloses a force of a mechanical interaction, which brings them into contact to produce an output, displaces the conductive sheets. This method suggests a switch closure; a button or key being pressed (i.e. a mechanical interaction) which is the method of typing or using a keyboard. therefore, examiner is of the opinion a keyboard is within the scope of the cited reference.

Considering claim 1, Sandbach discloses a foldable device configured to input data to a computer (see col 13, lines 7-10 and fig 1, items 101 and 132) comprising, a) a first electrically conductive fabric sheet and a second conductive fabric sheet (see col 2, lines 55-57 and fig 1, items 102 and 103); b) an interface circuit configured to supply voltage to and receive outputs from the input device (see col 3, lines 7-30 and fig 1, item 121); c) the interface circuit is arranged to respond to a mechanical interaction and to provided a data item to a computer (see col 3, lines 31-35); 1) except Sandbach does not specifically recite an alpha numeric keyboard device. However, Sandbach does recite a computer input device. One of ordinary skill in the art would readily recognize touch screens; a touch pad, handwriting capture device and keyboards are all alternative computer input devices. Therefore, it would have been obvious to one of ordinary skill in the art to modify the computer input device recited by Sandbach to be

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any known method of inputting data (i.e. a keyboard) into a computer because Sandbach does not recite a specific type of computer input device. However, Sandbach teaches an output is indicated by force of a mechanical interaction. This suggests a button or key being pressed which is the method of typing or using a keyboard. This further suggests a switch closure of a keyboard because there is an output as a result of the force of a mechanical interaction.

Considering claim 2, Sandbach discloses the limitation of this claim see col 3, lines 7-21.

Considering claim 3, Sandbach discloses the limitation of this claim see col 7, lines 14-27, col 10, line 65 to col 11, line 1.

Considering claim 4, Sandbach discloses the limitation of this claim see col 11, lines 43-60 and fig 12 and 13.

Considering claim 5, Sandbach discloses the limitation of this claim see col 3, lines 8-12 and col 7, lines 20-24.

Considering claim 6, Sandbach does not specifically recite a keyboard with a plurality of keys outlined on the keyboard. obviousness rejection is as stated in claim 1, part (1).

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Considering claim 7, Sandbach does not specifically recite providing a user with tactile feedback. However, Sandbach discloses (see col 10, lines 61-64) the use of a highly compressible electrical conductive layers and a highly flexible central layer, which provides aesthetic qualities in terms of touch and feel. The resiliency of the layers of fibers and the sheet which separates them can be deformed and return to its original state. Thus giving the user a feel of tactile feedback. Therefore, it would have been obvious to one of ordinary skill in the art the Sandbach input device provides tactile feedback to the user because when pressed resiliency in flexible material allows the input device of the Sandbach system to return to its un-pressed state.

Considering claim 10, the limitation of this claim is interpreted and rejected as stated in claim 7.

Considering claim 12, Sandbach discloses the limitation of this claim see fig 4.

Considering claim 13, Sandbach discloses the limitation of this claim see col 3, lines 26-35.

Considering claim 14, Sandbach discloses the limitation of this claim see col 13, lines 36-47.

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Considering claim 15, Sandbach discloses the limitation of this claim see col 3, line 59 to col 4, line 13.

Considering claim 16, Sandbach does not specifically recite a plurality of separate regions corresponds to a plurality of different keys. Sandbach teaches in fig 4 means of registering contact points having a flexible sheet between the electrical conductive sheets the flexible sheet having a plurality of holes which allow the electrical conductive sheets to be brought into contact in responds to mechanical interactions. One of ordinary skill in the art would readily recognize each hole in the Sandbach input device represents a unique output. Therefore, it would have been obvious to one of ordinary skill in the art modify the contact points of the Sandbach system to correspond to keys on a keyboard because Sandbach teaches a computer input device.

Considering claim 18, Sandbach discloses the limitation of this claim see col 3, lines 6-30 see fig 4, items 107, 108, 111, 112.

Considering claim 19, Sandbach discloses the limitation of this claim see col 7, lines 39-55.

Considering claim 20, Sandbach discloses the limitation of this claim see fig 4.



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Considering claim 21, Sandbach discloses the limitation of this claim see col 3, line 59 to col 4, line 13.

Considering claim 22, Sandbach discloses the limitation of this claim see col 3, lines 31-35.

Considering claim 24, Sandbach discloses the limitation of this claim see col 8, lines 28-41.

Considering claim 25, Sandbach discloses the limitation of this claim see col 7, lines 39-64.

***Allowable Subject Matter***

Claims 11,17,23 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure is Horiuchi '900, and Zheng '407, who disclose a keyboard constructed of woven electro-conductive fabric. Jung et al '366 and Gardenfors et al '685 disclose keyboard constructed of woven electro-conductive fabric, however the present application antedate these references. Lodini '548 teaches the use of wires woven in weft and warp matrix.

2. Any inquiry concerning this communication should be directed to Examiner Timothy Edwards at telephone number (703) 305-4896. The examiner can normally be reached on Monday-Thursday, 8:30 a.m.-4:00 p.m. The examiner cannot be reached on Fridays.

If attempt to reach the examinee by telephone are unsuccessful, the examiner's supervisor, Michael Horabik, can be reached on (703) 305-4704.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4700, Mon-Fri., 8:30 a.m.-5:00 p.m.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or fax to:

(703), 872-9314 (for formal communications intended for entry)

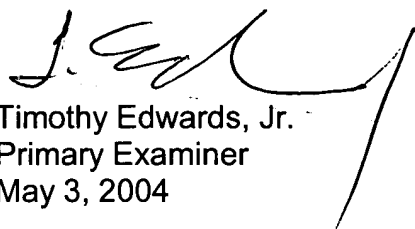
Or:

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(for informal or draft communications, please label "PROPOSED"  
or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121

Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).



Timothy Edwards, Jr.  
Primary Examiner  
May 3, 2004